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The Health Sciences University of the State of Georgia

Today

Volume 21, Number 4 Summer 1993

Intercepting a Brain Invader

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THE MEDICAL COLLEGE OF GEORGIA
The Health Sciences University of the State of Georgia

Today

Volume 21, Number 4 Summer 1993

Introduction

The skyline of the Medical College of Georgia campus just won't stay still.

The next addition will be a Children's Medical Center—a longtime dream of many dedicated staff members and friends who have worked hard to make it a reality. This edition of *Medical College of Georgia Today* provides an update on the plan.

Also featured are several members of the Children's Medical Center team: a group which has refined a technique to non-invasively measure the heart and lung functions of children. It's a potentially lifesaving breakthrough which has been eagerly awaited nationwide.

The magazine also features an article on physician assistants in commemoration of the School of Allied Health Sciences' 25th anniversary. These professionals are becoming increasingly significant in the face of health-care reform, and their work reflects their very specific niche. We introduce you to two alumni of the department, plus the department chairman.

Two research articles take you inside the laboratory, where scientists are probing such intricacies as cell injury and brain pathology. Their findings are providing vital and sometimes startling insight into a host of debilitating and sometimes fatal diseases.

Many thanks for your responses to the spring edition's readership survey. It's always a pleasure to hear from our readers, and your comments and suggestions help us do the best job that we can for you. ■

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The Medical College of Georgia is the health sciences university of the University System of Georgia. Focusing on health-care education, research and patient care, the Augusta-based institution consists of MCG Hospital, more than 80 support clinics, statewide outreach programs and the Schools of Allied Health Sciences, Dentistry, Graduate Studies, Medicine and Nursing.

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Intercepting a Brain Invader

A Medical College of Georgia researcher has his eye on a foreign body inside the brain's cells.

He's trying to isolate and study the Lewy body, a slow-growing invader of brain cells that can be found in the brains of patients with Parkinson's and Alzheimer's disease, as well as a disease of its own, diffuse Lewy body disease.

"Definitions of these diseases are not fixed in stone, and people's thinking about them is starting to change," said Dr. David Hill, assistant professor in the MCG Department of Cellular

Biology and Anatomy.

There is a lot of overlap in these diseases; those with Parkinson's can have dementia, and those with Alzheimer's can have Parkinson's-like motor problems. People with diffuse Lewy body disease appear to be in the middle of the spectrum, Dr. Hill said.

Neither Alzheimer's nor Parkinson's has a definitive diagnostic test and neither has treatments that cure or even halt the disease process. Available drugs treat symptoms by replacing substances made by the cells that have died. But this is only a holding action that eventually is overwhelmed by the disease.

"No one really knows what the underlying deficits are in Parkinson's, Alzheimer's or diffuse Lewy body diseases. We don't know what the basic causes are. We can see some pathological processes going on and use these clues to guess what's going on. But we don't really know what causes the diseases," Dr. Hill said.

"My focus is looking at Lewy bodies, trying to understand what they are composed of and the processes that brought about their existence. These may be byproducts of the disease process, as opposed to directly causing damage to the brain cells, but by studying the processes that produce them, we can get toward what the original disease state is."

German neuropathologist Frederic H. Lewy started writing about Lewy bodies in the brain stem, where Lewy bodies are the largest, around 1912. But it wasn't until 1988 that a series of antibodies were developed that attach to Lewy bodies and enable scientists to literally count them and trace them in other areas of the brain.

They have found Lewy bodies in many areas of the brain, and their increased number corresponds with increased dementia. Many Alzheimer's patients have been found to have Lewy bodies in addition to the pathology normally seen, Dr. Hill said.

"It may turn out that between 25 percent to one-third of Alzheimer's patients may be diffuse Lewy body disease patients," Dr. Hill said.

He is using brain tissue from human donors with dementia and trying to isolate, purify and characterize the components of Lewy bodies. He uses human tissue because there is no animal model for this disease process.

"This used to be normal brain tissue that has been altered somehow. We want to find out why it's been altered, how it's been altered and if we can trace it to the events that are causing this," Dr. Hill said.

An important clue is that the changes happen slowly. "This is something that doesn't occur overnight, but over many decades," he said. Lewy bodies are found in older people, as are Alzheimer's disease and Parkinson's disease. "We have to look for subtle changes in normal systems."

This change is a buildup inside the cells of the brain, the neurons. "As it grows, it takes up most of the innards of the cells and just occupies the space.

"The brain is a wonderful structure," Dr. Hill said. "It's absolutely amazing. With the substantia nigra (which is involved in controlling movement), you can lose 80 percent of the cells before you have any noticeable problem. The rest of the cells pick up the slack. So for many years, you may have the disease but not know it. We want to be able to identify people early in the disease, and try to stop or reverse the damage.

"One of the controversies is, 'Are Lewy bodies themselves bad? Does their presence cause the cells to be sick, or are they simply the consequence of something that is bad and killing the cells?' That's one of the things I'm trying to determine," Dr. Hill said. If Lewy bodies are a byproduct, he has to find out what causes these disabling growths inside the neurons.

"We are sort of toward the end of the beginning," the researcher said of the work he brought with him from the University of Pennsylvania in July. "We have a fair amount of information about (Lewy bodies) from indirect methods. We are, right now, about to start directly analyzing the components that go into it. Then, once we've done that, then we get into the really exciting stage, which is understanding what made these and then trying to interfere with the processes that made them."

—TONI BAKER

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Breathing Easy

It has been five minutes since a critically ill child arrived in the Medical College of Georgia Shock-Trauma Unit. His blood pressure is far below normal, and doctors need to obtain information about his blood flow to determine whether the problem is hemorrhaging or a blood infection. They need information and they need it fast; the child's life could well depend on how quickly the condition is assessed.

The doctor's tool is a catheter—a long, narrow tube with a small inflatable balloon and an electronic sensor at the tip. It is inserted into a patient's large blood vessels in the arm or neck. When the balloon is inflated, it travels through the blood stream to the heart and measures heart and lung function, including blood pressure and blood flow.

It's a valuable tool, but not without risks. Catheters can puncture a blood vessel, tear a heart valve or, worse, actually get knotted up in the heart. Also, catheters are too large to safely be used on small children and newborns, so the necessity of the information is often weighed against the risk to the patient's well-being. When doctors decide they absolutely must have the information—as in the case of the fictional child in the shock-trauma unit—it can take half an hour or more just to insert the catheter.

Doctors at the Medical College of Georgia Children's Medical Center have responded to this predicament by refining a non-invasive tool called the rebreathing technique that measures heart and lung function in less than five minutes—without the risks.

"Sometimes the risk of putting in the catheter is higher than the risk of the disease," said Dr. Edward Truemper, a pediatric intensivist. "We now have a tool that can give you all the information that a catheter can, but you can get it very early in the disease process. I know from talking with the various doctors around here that they are waiting eagerly for this tool to become available."

The rebreathing technique has been around for years, but it is only now on the threshold of becoming a significant clinical tool in the care of the critically ill, thanks to a team of physicians and researchers at the CMC, including Drs. Truemper, Spence Brudno and Curt Steinhart.

The process of rebreathing involves introducing a prepared gas mixture into the lungs of a critically ill patient and then measuring the gases as they are processed by the lungs. A cylindrical glass bottle with a soft, rubber bag inside is attached to a valve and placed in the breathing circuit between the patient and the ventilator. The bag is filled with a mixture of harmless amounts of acetylene, helium, carbon monoxide and oxygen.

"Rebreathing really means that instead of fresh gas coming into the lungs and then bad gas leaving, you are in essence rebreathing, back and forth, the same gas," explained Dr. Brudno, a neonatologist.

"We make sure that there is enough air in the bag that the patient will not have air hunger," said Dr. Truemper. "We do our breathing procedure for 25 seconds. I have never experienced a patient who was air hungry using our technique. And I've never had a patient who has suffered a critical loss of oxygen."

Drs. Curt Steinhart, Edward Truemper, and Spence Brudno

A one-of-a-kind valve specially designed by Dr. Brudno and manufactured in the MCG bioengineering department enables the system to work.

"We put this valve between the patient's ventilator and his mouth. By pulling the handle on the valve, without interruption of breathing to the patient, the air that comes from the ventilator then goes into the bottle," said Dr. Truemper.

"Once the valve is activated, the patient is exposed to the test-gas mixture. As the ventilator pushes air into the bottle, it compresses the bag and drives the test-gas mixture into the patient just as if he was still receiving air straight from the ventilator. Then the gas leaves the lungs and the breathing cycle starts again until the test gases and the patient's lung air are well-mixed."

No other valve designed for this purpose has as small an airspace as Dr. Brudno's. The valve contains 2 cubic centimeters of air, compared with 100

or 200 cubic centimeters in valves designed to test the rebreathing procedure in animals. It is the smaller valve which enables doctors to use this technique on human patients, even very small infants. The larger valves would produce too much breathing stress on humans, said Dr. Truemper.

Each of the gases contained in the bag provides information doctors need to treat the patient. "We are measuring how well the body is able to take in certain gases depending on how well the body is working," said Dr. Brudno. "We watch how quickly these gases leave the bag in the bottle by measuring these gases with the mass spectrometer, which is nothing more than a big detector that looks at different concentrations of gases and samples them continuously."

A special computer program designed by MCG research technician Steven Cutliff analyzes the measurements and gives doctors a complete performance check on the heart and lungs in less than five minutes.

"The fastest I've ever seen anybody put in a catheter is somewhere between 30 minutes and an hour. I can get the rebreathing equipment set up and have the information in less than five minutes," said Dr. Truemper.

One of the most important measurements obtained by the rebreathing technique is called effective pulmonary blood flow, the amount of blood in the lungs that actually participates in gas exchange. It represents the amount of blood that takes oxygen from little air sacs in the lungs called alveoli.

In a healthy individual, about 95 percent of the blood going to the lungs is effective pulmonary blood flow, according to Dr. Truemper.

"Then there is the portion that we call shunted blood, meaning blood that doesn't get near an alveolus to participate in gas exchange. In a person without lung disease, the total amount of blood put out by the heart very closely matches effective pulmonary blood flow. When the lungs are not working correctly, the shunt goes up. When the shunt goes up, the effective pulmonary blood flow goes down," said Dr. Steinhart, MCG pediatric intensivist.

"One of the things we've found is that effective pulmonary blood flow is a very good predictor of oxygen consumption," said Dr. Brudno. "If you can measure oxygen delivery, which this system will do, then you can balance oxygen delivery so that it better matches oxygen consumption."

Such a system eliminates the guesswork from treatment. "For instance, if you know what is wrong with a patient, you have several different therapies you could use. But you don't (necessarily) know how much of one to use. With our system, you don't guess," Dr. Brudno said. "If you were using several drugs to make the heart pump well and deliver oxygen to the body effectively, the best way to do that is to monitor oxygen delivery, and this system is perfect for that."

The amount of acetylene used to determine effective pulmonary blood flow is minute but very important, Dr. Steinhart said. "If we measure how rapidly acetylene is removed from the lungs, we actually are looking at how well blood goes to the lungs and leaves the lungs," he said.

Another important measurement the rebreathing technique provides is functional residual capacity. "We use helium to determine how much gas or how much volume is in the lungs at the end of a breath, or expiration. This is what is called functional residual capacity," said Dr. Steinhart.

Measuring functional residual capacity enables doctors to monitor the success of artificial ventilator support. Functional residual capacity can be used to indicate positive end expiratory pressure, the amount of pressure that forces carbon dioxide out of the lungs when one exhales.

The physician can increase the pressure to improve a patient's functional residual capacity. But the level to which it is increased can surpass the point of being helpful. In fact, it actually becomes harmful, Dr. Steinhart said. The problem is that as the pressure and functional residual capacity is increased, the heart's ability to pump blood through the lungs is inhibited. "By taking these measurements, we can increase the pressure and functional residual capacity to a point where it is optimal," Dr. Steinhart said.

"The importance for measuring it is that in some disease states, functional residual capacity can either become very high or very low. In diseases like pneumonia, heart failure or other respiratory distress problems, functional residual capacity becomes very low. When that happens, blood goes from the heart to the lungs, then back to the heart without ever getting any oxygen," Dr. Steinhart said.

By measuring the effects of drug treatments or manipulation of the ventilator, Dr. Steinhart can actually judge the performance of his therapy and adjust it to its optimum level. "We believe there is a point in altering the heart and lung function where everything is optimal, even in diseased lungs. You may not be able to get it to normal, but you can get it to function the best you can."

And the speed of the technique enables immediate action. "The beauty of this is you get the information in a fraction of the time it takes to even choose a site on the body to insert a catheter to get the data. It gives you speed. It correlates well with clinical findings. It also correlates very well with chest X-ray findings," Dr. Brudno said.

And the technology will become increasingly refined, Dr. Brudno said. "We have taken patients with a specific disease and studied them. Now we need to start looking in the opposite direction. We need to take these profiles in the changes in the cardiopulmonary parameters and see how they serve as predictors of disease," Dr. Brudno said.

New software is under development already to improve the system.

"Everything that is custom-designed will have originated on this campus," Dr. Truemper said. "I've done 70 patients and probably 500 or 600 studies. We know the many nuances that affect the rebreathing method in critically ill patients. We're building all our expertise into the new software.

"The next software package will probably be voice-activated since it now takes two people to successfully operate the system. Someone operates the computer system to collect the data while the other individual operates the breathing valve," Dr. Truemper said. "With the new voice-activated system, one person would be able to continue operating the valve while simultaneously issuing voice commands to the computer to collect and analyze the data."

The team's work is moving into hospitals nationwide. Clinical studies around the country are just beginning. "It has been a team effort 110 percent," Dr. Truemper said. "With some seed money from the American Heart Association, the American Lung Association and some very good long-term support from MCG, we've gotten it done."

"We are right on the threshold of doing regular clinical work," said Dr. Steinhart.

The team hopes this technique will be standard procedure within three to four years.

—GLENN HUDSON

AlumNews

Distinguished Alumni Honored at Homecoming

Christine Hurley Deriso

Alumni from each of the Medical College of Georgia's five schools were honored during the university's 1993 homecoming celebration April 30 through May 2.

The School of Allied Health Sciences honored E. Grace Yrizarry as the school's distinguished alumna. Ms. Yrizarry, a physician assistant at Georgia Regional Hospital in Augusta, earned a bachelor's degree in the field from MCG in 1987 and is certified by the National Commission for Certification on Physician Assistants.

After earning her MCG degree, Ms. Yrizarry worked as the assistant to a private physician in Atlanta for a year, then joined Georgia Regional. She also is a clinical instructor in the physician assistant department at MCG and has served as the school's alumni association president. She has served as vice president of the Gamma Beta Phi Honor Service Society.

The School of Dentistry Alumni Association honored Dr. Andrew R. Allgood, who has practiced dentistry in Lincolnton, Ga., since 1974. Dr. Allgood, a 1973 graduate of MCG, also operates a satellite practice in Washington, Ga.

He has served as president of the Eastern District Dental Society and has held several positions on the Georgia Dental Association. He also is a member of the American Dental Association, the Augusta Dental Society, the Academy of General Dentistry and the MCG School of Dentistry Alumni Association.

The School of Graduate Studies Alumni Association presented its Distinguished Alumni Award to Dr. George H. Greeley Jr., professor of surgery and director of the Surgical Biochemistry Laboratory at the University of Texas Medical Branch in Galveston, Texas.

Dr. Greeley earned a Ph.D. in endocrinology from MCG in 1974 and joined the University of Texas Medical Branch faculty in 1981. He has distinguished himself in

Dr. Francis Tedesco (center), president of MCG, with 1993 distinguished alumni Dr. George Greeley (from left), Dr. Andy Allgood, Grace Yrizarry and Dr. H. Gordon Davis. (Not shown: Drs. William B. Kannel, Joy Penticuff and Nancy Williamson.

Dr. Bob Pearson (Medicine,'78), putts during MCG's homecoming golf tournament

the field of gastrointestinal endocrinology, publishing 141 refereed papers, 10 book chapters and 217 abstracts since 1973. He has served on the editorial boards of Endocrinology, Biological Signals and Proceedings of the Society of Experimental Biology and Medicine. He earned the International Congress of Endocrinology travel awards of 1980, 1984 and 1988.

The School of Medicine Alumni Association presented Distinguished Alumnus Awards to Drs. H. Gordon Davis, William B. Kannel and John H. Sherman.

Dr. Davis, a 1945 graduate of MCG, has conducted a family practice in Sylvester, Ga., since 1948. He is president of the MCG Foundation and a past president of the MCG School of Medicine Alumni Association. He was named Physician of the Year by the Georgia Academy of Family Physicians.

Dr. Kannel, a 1949 graduate, is chairman of medicine of public health and epidemiology at the Boston University School of Medicine. He helped pioneer the world-famous Framingham Heart Study and has a longstanding interest in preventive cardiology. His awards include the 1972 Dana Award in Preventive Medicine, the 1973 Dutch Einthoven Award, the 1981 CIBA Award of Hypertension Research and the 1988 Distinguished Service Award from the American College of Cardiology.

Dr. Sherman, awarded posthumously, graduated from MCG in 1923 and practiced general surgery in Augusta until his death in 1969. He also served on the school's faculty from the 1930s through the 1950s.

The School of Nursing Alumni Association presented its E. Louise Grant Award, which honors an outstanding alumnus, to Dr. Nancy Williamson. It presented its Phoebe Kandel Rohrer Award for outstanding research and education to Dr. Joy Hinson Penticuff.

Dr. Williamson, director of the school's Rural Health Outreach Program, earned bachelor's and master's degrees from the MCG School of Nursing and earned a Ph.D. in educational administration from Georgia State University. She joined the MCG faculty in 1983.

She is a member of the American and Georgia nurses' associations, the national and Georgia rural health associations, the National Perinatal Association and Sigma Theta Tau. She was named MCG's adult nursing undergraduate teacher of the year in 1984.

Dr. Penticuff, associate professor in the University of Texas at Austin School of Nursing, earned a bachelor's degree from the MCG School of Nursing and master's and doctoral degrees from Case Western Reserve University. She completed a postdoctoral fellowship at the Baylor College of Medicine Center for Ethics, Medicine and Public Issues.

She received the 1990 Faculty Research Award at the University of Texas at Austin School of Nursing and the school's 1992-93 Teaching Excellence Award. She is a member of the Hastings Center Institute of Ethics, Society and the Life Sciences; the American Nurses Association; the Society for Medical Decision Making; Sigma Theta Tau; and the American Academy of Nursing. ■

President's reception during homecoming.

Alumna Makes Mark in Medical Records

Ingrid Heggoy

Lori Mashburn Nobles wanted a career in the medical field, but in college she quickly decided that she didn't want to be a physician. So she investigated her possibilities.

"I started looking into other areas that would still be involved in medicine," Lori said. A friend was preparing to enter the medical records administration program at the Medical College of Georgia, and she decided it sounded interesting.

A professor put her in touch with the director of medical records at Northeast Georgia Medical Center in Gainesville. She toured the facility and learned more about the field.

"I just decided that it was for me. You still are involved in the medical and science aspects that I was interested in, but also combined with the business aspects. It's a combination that I enjoy."

Lori graduated from the medical record administration program (now the Department of Health Information Management) at MCG in 1987. She now works at the Savannah River Site in health information administration and medical computer development, education and training.

"I was hired primarily to work with the computer medical information system. I work with the programmer to update the program and to identify and solve needs. I'm also developing a training program; I'm writing a user's manual, a lot of duties that relate to the medical information system on the site."

SRS keeps much of its employee medical information on computer, such as information from employment medical histories and physicals, employee medical conditions and restrictions. Physicians, nurses and other authorized medical staff can access this information via computer from any of the approximately 10 medical areas on site. Other medical files, such as older records that must be maintained due to government regulations for a certain number of years, are kept on microfische. Lori is responsible for maintaining these confidential computerized and traditional records.

"I also act as a resource for all of the medical staff—the physicians, nurses, emergency service technicians, clerical staff, and so on, for computer hardware and software problems."

Health information management is a field few people are aware of, and even fewer understand what the job can entail, according to Lori. Career options include working in a hospital, private industry, insurance companies, private consulting or even working for an attorney.

"A lot of people aren't really sure what I do," she said. "When I told my mother what I was going to do, she said that it sounded like I was going to go to school for four years just to be a glorified secretary. I think unless you look at it more closely, tour a facility, talk to someone in the field, you really don't understand the scope and variety of what's involved."

Medical Technologist Lori Mashburn Nobles

Lori also is involved in local and state professional organizations in the field. She is former president of the Augusta Area Health Information Management Association, and last year served on the executive board of the Georgia Health Information Management Association.

"One of the things I like about the field is that it is changing, advancing, so rapidly. I remember thinking that I'd never see something like optical disks being used in my field, and it's here now, it's a reality."

She's glad she found out about a career option that many people are unaware of. "I really like what I'm doing, especially now at SRS. I'm active in a lot of areas that are inter-related, so there's a lot of variety. It's always different. Every day, something new comes along." ■

Alumni blow out candles on cake commemorating the School of Allied Health Sciences 25th anniversary during homecoming dinner.

Medical Technologists Honored

Several Medical College of Georgia School of Allied Health Sciences faculty members were honored at the recent Georgia Society for Medical Technology annual convention in Atlanta.

Dr. Geraldine Rinker, professor of medical technology and administrative technologist in the clinical pathology labs, received the state and local Medical Technologist of the Year Award.

Abdul Hamid Shaikh, associate professor and director of the medical technology graduate program, received the Gloria F. Gilbert Achievement Award for his work with the society's continuing-education programs and as district I director.

Dr. Julia Crowley, professor and chairman; Dr. Sharon M. Martin, assistant professor; Regina Mobley, assistant professor; and Sharon Kutt, assistant professor, received the Omicron Sigma Award honoring their volunteer efforts to help both the society and the profession of medical technology develop in the state. ■

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Georgia Dental Board Adopts New Exam

Glenn Hudson

A recent move by the Georgia Board of Dentistry will make it easier for dentists from Georgia to practice in other states and for dentists from other states to practice in Georgia.

The board voted in January to adopt the Southern Regional Testing Agency board examination, which will enable dentists to apply for licensure in Tennessee, Kentucky, Virginia and Arkansas without taking additional examinations. Illinois, which is a member of the Central Regional Testing Agency, also will recognize the test so that dentists who have taken the Southern Regional exam will be eligible to apply for licensure in that state as well.

Dr. Billy J. Powell, associate professor of oral diagnosis and patient services at the Medical College of Georgia and liaison to the Georgia state board of dental examiners, said that the new exam is a move toward a national exam for all states. "In the past, each individual state had its own state board exam and it varied from state to state," he said. "Individual state boards don't have the personnel or the training to administer the state board exam. And I think that is the conclusion that Georgia came to. In future years, it will be opened up so that there will be more mobility for dentists to practice in different states."

Dr. Powell cited many advantages of the new exam as opposed to the traditional Georgia board exam. "The Georgia board had a clinical casting aspect of it that was difficult. That is not on the Southern Regional Exam," he said. "Also, with the Southern Regional examination, if you are unsuccessful the first time, then when you go back to take the exam you only have to take the portions of the examination that you were unsuccessful on."

The Southern Regional board exam will be given up to eight times a year, so candidates for licensure who fail will not have to wait six months before retaking the test as they did with the state board exam.

"It is going to be more expensive to take this test than it costs to take the Georgia state board," Dr. Powell said. " But, candidates taking the regional board will know if they were successful within two weeks of taking the test. With the state board, candidates had to wait six weeks before they knew the results."

The Southern Regional test will cost $565 plus a $75 fee for supplies paid to the school where the test is taken. For dental hygienists, the additional fee will be $40. The Georgia state board examination cost $300 with no additional fees.

The Southern Regional examination consists of eight parts: two written presentations on oral pathology and oral diagnosis; two laboratory procedures dealing with the preparation of a full crown and casting and root canal access and four categories of actual patient-care procedures, including class-two amalgam restorations, anterior non-metallic restorations, periodontal treatments and prosthodontic treatments.

The new test is not retroactive to dentists who have already taken the Georgia state board exam. Only dentists who have taken the new Southern Regional exam will be eligible for licensure in the other participating states. ■

Dr. Herman to Direct Dental-Emergency Clinic

Glenn Hudson

Dr. Wayne Herman has joined the Medical College of Georgia School of Dentistry faculty as the director of the new dental emergency-services clinic scheduled to open in September 1993.

"One of the reasons we are starting the clinic is to better handle emergencies. Right now, the only emergencies we are able to handle are for patients who are currently under the care of a faculty member or resident," said Dr. Herman.

"The initial plan is to provide restorative care, like a broken tooth or a severe cavity, so that the patient's symptoms will be relieved and they will be in a stable condition," he said. "We will also deal with acute periodontal disease. It is an attempt to provide those kind of services that would be available in a general dental practice."

The clinic is not designed to draw patients away from their regular dentists, Dr. Herman said. "The reason that people come to this kind of a situation is that they don't have a regular dentist. These people don't see a dentist on a regular basis, so they don't have someone they can call in an emergency," he said.

Four senior dental students will be assigned to the clinic. Dr. Herman will oversee all work and will be a clinical instructor. The clinic will be staffed half-days. Emergencies after hours will still be handled through the on-call system.

"The primary objective here is student education: to teach the student how to deal with a dental emergency. We are also providing a service to the school and to the community," Dr. Herman said.

Dr. Herman earned his dental degree from Indiana University in 1967, then served a one-year general-practice residency in the U.S. Army at Madigan General Hospital in Tacoma, Wash. He currently holds the rank of colonel and is chief of oral medicine in the U.S. Army Dentac at Fort Jackson, S.C. He received his degree in oral diagnosis/oral medicine from the University of Iowa in 1974. Dr. Herman will join the MCG staff full time July 1. ■

Award Honors Dr. McKinney

Implant Dentistry magazine and the International Congress of Oral Implantologists have established an annual award in honor of Dr. Ralph V. McKinney Jr., for the most outstanding manuscript published each year in Implant Dentistry.

Dr. McKinney was professor and chairman of the Department of Oral Pathology at the Medical College of Georgia School of Dentistry until his death in 1991. He was named an honorary member of the International Congress of Oral Implantologists in recognition of his many years of support to the organization and contributions to the field of oral implantology.

The $2,500 award, provided by the congress, will be presented in 1994 to the senior author of a selected article from Volume 2, 1993, in *Implant Dentistry.* ■

Dr. T. Barrett Trotter, president of the School of Dentistry Alumni Association, presents distinguished alumnus award to Dr. Andy Allgood and his wife, Carol.

Dr. Hines Receives Citizenship Award

Glenn Hudson

Dr. Frank Hines Jr., interim chairman of the Department of Orthodontics at the Medical College of Georgia, has been presented the 1992 Southern Association of Orthodontists' Citizenship Award.

The award, which was presented at the association's annual meeting in Lexington, Ky., recognizes dedication to community and high standards in the field of orthodontics.

Dr. Hines, who joined the MCG staff in 1973, has served as president of the SAO as well as president of the South Carolina Dental Association.

He earned a bachelor's degree from the University of South Carolina in 1949. He graduated from the Emory University School of Dentistry in 1951 and served with the U.S. Navy as a prosthetic dental officer from 1953-1955. He received a master of science degree from the University of North Carolina in 1957. Dr. Hines was in private practice until 1989 in Columbia, S.C. He is now in private practice in Lexington, S.C.

He has been active in the Boy Scouts of America, the Rotary Club, the United Way and the Cathwood Baptist Church in Columbia, S.C. ■

Dr. Miller Named to Dental School Post

Glenn Hudson

Dr. Michael Henry Miller has been named director of student admissions and academic support for the Medical College of Georgia School of Dentistry.

As part of his duties, Dr. Miller will chair the Student Academic Review Committee, the Faculty Development Committee and the Teaching Excellence Award Committee.

Dr. Miller has served as assistant director of student affairs and assistant professor of health science education at MCG since 1984.

He graduated with honors from Clemson University in 1974 with a bachelor of arts degree. He received his master of science degree in 1977 and his doctor of philosophy degree in 1981 from Florida State University in Tallahassee, Fla.

Before coming to MCG, Dr. Miller served as the assistant dean of students at Georgia Southern University in Statesboro, Ga. ■

Dr. Nayyar Named to Committee

Dr. Arun Nayyar, associate professor of fixed prosthodontics at the Medical College of Georgia School of Dentistry, has been appointed to the Prosthodontics Test Construction Committee of the American Dental Association.

Dr. Nayyar will help develop test questions for the national dental licensing board examination in the area of prosthodontics. Dr. Nayyar's appointment will begin January 1 and the term will last one year. ■

School of Dentistry Alumni Association Officers, 1993–94

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Dr. T. Barrett Trotter
525 Pleasant Home Road
Augusta, GA 30907
(706) 860–2442

Vice President
Dr. Isaac F. Holton Jr.
1215-B George C. Wilson Dr.
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(706) 860–7937

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Augusta, GA 30907
(706) 860–2244

Scientists Clone Target of Antidepressant Drugs and Cocaine

A research team led by Georgia scientists—including two from the Medical College of Georgia—has uncovered for the first time the structure of the protein which is the first step in antidepressant action.

Powerful drugs like Prozac are believed to relieve depression by altering chemical signaling in the brain mediated by the neurotransmitter, serotonin. The group has cloned the human serotonin transporter, a protein which normally removes serotonin from brain synapses—or gaps between nerve cells—like a miniature vacuum cleaner, according to a study published recently in the *Proceedings of the National Academy of Science.*

In the presence of antidepressants, this vacuum action is reduced, leaving more serotonin available to carry signals from one cell to another. Not only is the identified protein a major target for antidepressant drugs, but it is also extremely sensitive to cocaine, a finding which may have implications for the understanding of drug abuse.

"We've known this protein was involved in the actions of these drugs for decades, but for the first time, we have our hands on the protein and can study it and the gene that makes it to understand the role they play in brain function or disease," said senior author Randy D. Blakely, Ph.D., assistant professor of anatomy and cell biology at the Emory University School of Medicine. To clone the transporter, Dr. Blakely and colleagues first identified the equivalent molecule from rat brain.

"The region in the human brain where the serotonin transporter is found represents only a small fraction of the total cells in the brain, so we began our hunt looking first in the rat brain where we knew an equivalent protein to reside," Dr. Blakely said.

Once the serotonin transporter was identified in rodents, they then turned not to the human brain, but to the placenta, which Dr. Vadivel Ganapathy of the MCG Department of Molecular Biology and Biochemistry and co-author of the study, had shown previously to also make a serotonin transporter.

"Because the placenta is expelled at birth, large quantities of it are available to scientists for study—unlike small regions of the human brain—and in the past, it has proven a treasure trove for the identification of new genes," Dr. Ganapathy said.

Drs. Blakely and Ganapathy now are investigating the mechanisms which regulate the serotonin transporter gene in hopes of understanding how disease might affect transporter function.

"We know the serotonin transporter to be localized to a small region of chromosome 17, and it will be important to determine if any neuropsychiatric disorders involve changes to this site," Dr. Blakely said. "Much work is needed, however, before the full gene is characterized."

In the interim, psychiatry researchers are already planning to use the gene probe to better understand the severest manifestations of depression, such as suicide.

"This probe finally allows us to determine if something is fundamentally awry in the serotonin transporter in the brains of patients with depression—and help us develop new antidepressants which will better normalize neurotransmitter function," said Dr. Charles B. Nemeroff, chairman of psychiatry at Emory. Previous studies by Dr. Nemeroff and others have identified changes in the ability of the serotonin transporter to function in depressed patients.

As to the ability of cocaine to block the pumping action of the serotonin transporter, Dr. Blakely notes that "cocaine blocks two other proteins in the brain as well, both of which are vacuums like the serotonin transporter, and it is likely that the potent actions of this drug in humans arise from a combined effect on all three brain targets, whereas antidepressants are more specific. We are very excited about the opportunity to explore the inner workings of these proteins to search for clues to their regulation and specificity for different drugs." ■

Students Honored

Several Medical College of Georgia medical illustration students were honored recently for their exhibits in the first annual Scientific and Medical Illustration Exhibition.

The exhibition, sponsored by the University of Georgia College of Veterinary Medicine and Department of Art, awarded exhibits in the categories of scientific illustration and medical illustration. Students from the Medical College of Georgia and the University of Georgia were eligible to enter.

MCG's honored medical illustration students were Tracie Aretz, who won first place for her project, *Anatomy Related to Mastoidectomy;* Michael Bertram, second place, for *Muscle of Matrication;* Robert Wainwright, third place, for *Dislocation of Hip Replacement;* and Gary Chike, honorable mention, for *Arthroscopic Knee Surgery.* ■

Alumni association homecoming fish fry.

'Country Boy' Alumnus Stakes Career in Pediatric Surgery

Toni Baker

The first surgery he ever did was while his grandmother held a chicken and he sewed up its craw.

"All birds have a craw," the former country boy explained. "That's where the corn is stored before it goes to the stomach. When it's full, it will stick out. You get it hung on a fence or something like that. When your craw is cut, you can't eat."

So Robert A. Parrish Jr. took some thread and a needle—and his grandmother—to the chicken.

He was probably 10.

About that same time, he broke his leg riding his bicycle. When the leg came out of the cast after eight weeks, his orthopedic surgeon devised a physical therapy program to get the leg back up to snuff. "'The way you get this leg back in shape, you go to your mama's sewing machine (which then was non-electric), you sit and work that sewing machine a half hour, three times a day.'

"I figured if I was going to have to sit down three times a day for a half hour, I might as well learn to stitch," said the native Augustan, a downtown dweller for many of his early years who moved to the "country" of Washington Road about the same time he started operating on chickens.

Dr. Robert A. Parrish, Jr.

It was a rude awakening milking cows at 6 a.m. "I wanted a horse, so my father bought me two milk cows. Then I got to work about a half-acre garden every day. So I became a farmer. We had pigs, turkeys." He never got the horse.

When the pigs started dying, "It was a mystery in the community." The county extension agent came to investigate and realized that the man vaccinating the pigs for cholera was giving shots in the belly, perforating the gut and killing the animals.

So the extension agent decided to teach teen-ager Robert Parrish to vaccinate pigs. "I stuck them in the hip. All of them lived."

At 14, this son of a railroad man was thinking maybe he would be a veterinarian.

But then there was medicine.

One city neighbor was 1924 Medical College of Georgia School of Medicine graduate G. Lombard Kelly, who would become medicine dean a decade later and MCG's first president in 1950.

His music teacher—his mother made him take piano lessons, but he really loved the saxophone—was also a city neighbor and the wife of Dr. Richard Torpin, a longtime chairman of the Department of Obstetrics and Gynecology.

His father-in-law was a physician.

Still, Dr. Parrish thought about veterinary school. He thought about a life of one-night stands as a saxophone player. He didn't think about being a farmer."I promised my father I would never milk another cow or plant another vegetable."

About his junior year at Mercer University, he decided he'd be a doctor.

Naturally Dr. Parrish would become a surgeon. After graduating from the MCG School of Medicine in 1956, he traveled to Memphis for an internship at Baptist Memorial Hospital—at the time the world's second-largest hospital—then walked across the street to the University of Tennessee to finish his training.

There happened to be a children's facility, LeBonheur Children's Medical Center, in Memphis where he met Dr. Robert Allen, a pediatric surgeon Dr. Parrish calls the finest surgical technician he has ever seen. "He was an excellent teacher. He sort of took me under his wing." Dr. Parrish stayed on two more years, getting additional training in thoracic and pediatric surgery and getting smitten with the care of children.

"It's the same thing as you doing a good deed for another human. It makes you feel good. You are involved not only with the patient, but with the parents. The patient gets well, the parents are grateful and you see the patient grow up," Dr. Parrish said. "The hard thing is when you see one die." But you have to deal with that death and go on, he says. And "we cheat a little because most children don't die."

When he came back to his alma mater in 1962 as a faculty member, he found children being seen by all the surgeons some of the time. He wanted the job full time.

It was a dynamic time in medicine. In the mid-'60s, a University of Pennsylvania surgeon was able to give a bunch of beagle puppies all the nutrition and fluids they needed by vein. "This was the beginning of hyperalimentation," Dr. Parrish said. This new way of supplying nutrients and fluids revolutionized pediatric surgery, as it did many problems in the critical care of adults and children, he said.

"Prior to that, there were certain problems with newborns we couldn't cope with because we couldn't keep them alive. If they didn't have a gastrointestinal tract that would work, we had no mechanism of getting enough calories, protein and fat into

them to keep them alive. So they literally starved to death. The same way with babies who were on respirators." Dr. Parrish, working with neonatologist Ezzat Aziz, was the first to use hyperalimentation at MCG in 1968. They had to make their own catheters for this novel therapy. "Back then, the only catheters on the market were polyvinyl," which was hard plastic. Dr. Parrish and his operating room technician would buy softer Sylastic tubing by the gross, 50 pounds worth, and make their own catheters. They'd take pediatric needles, hone off the end, and use these to get adequate amounts of hyperalimentation into tiny veins.

"That changed pediatrics. That changed respiratory care in the premature babies. That changed gastrointestinal tract surgery," he said.

Dr. Parrish flourished in this academic environment. He would become a full professor in eight years and he still wears the gold watch given him by the trustees of the MCG Foundation in 1966 for outstanding teacher.

Fellow surgeon and former surgery chairman Dr. William H. Moretz was named president in 1972, and Dr. Parrish kept badgering him about creating a section of pediatric surgery. Dr. Moretz did it.

More changes came; Dr. Parrish established a 25-bed pediatric nursing unit and got surgery residents rotating through his new service. But it was 10 years later, when Dr. Albert W. Pruitt came as chairman of the Department of Pediatrics, that changes really began, Dr. Parrish said. Dr. Pruitt attracted a lot of good faculty and residents, he said. And it was about that time that the idea of a free-standing Children's Medical Center was born. At the time and today, he loved the opportunity to be a part of an era of such significant change.

As Dr. Parrish was stepping down from his job March 31, he was learning of more change, with the Georgia legislature approving funding for the free-standing Children's Medical Center.

Ask him about his future professional plans and he laughs and says it's a secret.

Ask him about his personal plans and he says he's going to hunt, fish, play golf and the saxophone, grow roses and orchids and "watch my grandbabies grow up." ■

98-Year-Old Alumnus Dies

Dr. Theodore Markland Yates, a graduate of the Medical College of Georgia School of Medicine class of 1919, died March 19 in Summerville, S.C. He was 98.

Dr. Yates was born in Bishop-Aukland County, Durham, England, to James and Annie Baker Yates. His family moved to Augusta in 1910. Dr. Yates graduated from Richmond Academy High School, then the University of Georgia, before enrolling at MCG.

After earning his medical degree, Dr. Yates completed an internship in gynecology at the old Roosevelt Hospital in New York City. He then practiced for two and a half years in Labrador, Canada, followed by a 20-year medical mission in China for the Presbyterian Church. His last two years in China—1941-43—were spent as a prisoner of the Japanese. After being freed, he and wife Jean took a world tour. Dr. Yates then joined the U.S. Army.

At age 51, he returned to Augusta to practice at the Department of Veterans Affairs Medical Center. He then joined the VA in Columbia, S.C., as chief of urology.

When his wife became ill in her mid-80s, the couple moved into the Presbyterian Home in Summerville, S.C. Mrs. Yates died about a year later; Dr. Yates lived there until his death.

Dr. Yates' survivors include a daughter, Christina Y. Parr of Columbia; a son, James K. Yates of San Francisco; five grandchildren; and three great-grandchildren. ■

School of Medicine Alumni Association meeting in Athens, Ga., February 15. The association also sponsored dinners for alumni in Jacksonville, Fla., February 11 and Dalton, Ga., Jan. 28.

Rural Health Outreach Program's School Clinic Stresses Prevention

Christine Hurley Deriso

The day of March 19 was as close to leisurely as Linda Weeks gets. She spent the day poring through papers, restocking supplies and even granting an interview to discuss her work at Wadley, Ga.'s Carver Elementary School.

It was a hectic schedule by most people's standards, but to Ms. Weeks, it was a piece of cake. Her workdays usually consist of tending to the dozens of ills and aches of a school full of children. On this particular Friday, the children were out of school for a teacher's workday, so Ms. Weeks seized the opportunity to catch up on paperwork.

Ms. Weeks is a registered nurse hired by the Medical College of Georgia School of Nursing Rural Health Outreach Program to provide on-site health services at the school during school hours. The program, funded by a grant from the W.K. Kellogg Foundation of Battle Creek, Mich., works to alleviate health-care problems in rural Georgia. Carver's on-site health clinic—offering the only health care available at the school—is but one of many of the program's projects in rural Jefferson County, Ga., the fifth most economically disadvantaged county in Georgia.

Almost all of the children in the school live at or below the poverty level, and many of them have scant access to health care. The clinic—housed in the Rural Health Outreach Program's mobile unit, which is parked on the school grounds—provides physicals for all the children, immediate health care for minor problems and referral to a local physician (or physician of the parents' choice) for larger problems. Ms. Weeks and a paraprofessional staff the clinic.

Dr. Nancy Williamson, director of the Rural Health Outreach Program, considers the clinic a means of prevention. Many of the children otherwise might not see a health-care professional until a problem grew severe enough to necessitate a visit to a hospital emergency room, she said.

"What I've found is that many of these children have to be really sick before a parent will take them (for treatment)," Ms. Weeks said.

Other than the physicals, Ms. Weeks' schedule generally consists of treating minor aches or pains. "We never really know how to schedule, because it's an episodic type of thing," she said. "(The children are) in and out all day."

Ms. Weeks takes the opportunity not only to treat the problem at hand, but to assess the child's overall physical condition and to encourage communication. "When you start talking to them, you realize there are often symptoms other than the one that brought them to the clinic," she said.

Ms. Weeks counsels them about overall preventive health care: hygiene, dental care and even self-esteem and decision-making. "I really stress handwashing," she said. "I teach them that that's one of the main ways they can protect themselves."

But the main thing she dispenses, she said, is tender loving care, which the children seem to thrive on. "The kids really do seem to appreciate it," Ms. Weeks said. "A lot of them just give me a hug. There's a lot of satisfaction in that."

Their parents, with whom Ms. Weeks communicates by phone and at parent-teacher meetings, also express their appreciation. "They have seen us as a way to help identify problems," Ms. Weeks said. Although most of the children's problems are minor, she has uncovered such serious conditions as kidney infections and hearing problems which might otherwise have gone undetected.

Ms. Weeks also treats and counsels the school's faculty and staff. Several come in regularly for diet counseling and blood-pressure checks, she said.

The clinic opened its doors in November and has been swamped ever since, averaging about 350 visits a month. (Three hundred and seventy-two students are enrolled in the school.)

The Kellogg grant is funding Ms. Weeks' salary this year. If the effort succeeds, she will become an employee of the school system and the clinic will be funded largely through Medicaid reimbursement, for which more

Dr. Vickie Lambert, dean of the School of Nursing, blows out candles on cake commemorating the school's 50th anniversary during the school's homecoming.

than 90 percent of the students are eligible, Dr. Williamson said.

And so far, Dr. Williamson said, the clinic is proving to be a roaring success. "School health is a very popular concept and a need throughout Georgia," she said.

"They've really become dependent on us, which is good," Ms. Weeks said of her patients. "It makes me feel like what we're doing is necessary and worthwhile." ■

Alumna Named Dean of Bellarmine Nursing School

Dr. Susan J. Hockenberger, a graduate of the Medical College of Georgia master's-degree program in nursing, has been named dean of Bellarmine College's Allan and Donna Lansing School of Nursing in Louisville, Ky.

Dr. Hockenberger earned an undergraduate nursing degree from Mary Manse College in Toledo, Ohio, and a doctorate in education from Vanderbilt University in Nashville, Tenn.

She joined Bellarmine as a nursing instructor in 1979. Since then, she has served as chairman and clinical specialist of the baccalaureate nursing program; director of adult services; associate dean; and interim dean for the past two years. She helped establish the school's nursing outreach program and a complete nursing curriculum revision.

"Since becoming dean, Dr. Hockenberger has earned the full confidence and support of students, faculty, administrators and trustees, and we are confident in the future of nursing education at Bellarmine under her leadership," said Bellarmine President Joseph J. McGowan Jr.

Dr. Hockenberger was named to *Who's Who of Women International* in 1992 and serves on the curriculum committee and the Afro-American Initiative for the college. She serves on several community boards, including the American Cancer Society. She is president of the Kentucky Board of Nursing and the Plastic Surgical Nurses Certification Board. ■

Dr. Lambert Named to Board

Dr. Vickie A. Lambert, dean of the Medical College of Georgia School of Nursing, has been elected to the board of directors of the Southern Council on Collegiate Education for Nursing for 1993-95.

Dr. Lambert will be one of seven board members to supervise activities related to identifying needs and resources for nursing and nursing education; plan and conduct regional activities to strengthen nursing and nursing education; provide a forum to share information and promote communication among collegiate nursing education programs; stimulate research in nursing and disseminate research findings; conduct studies and publish reports on issues germane to nursing and nursing education; and adapt resolutions or position papers as a basis for planning and action.

The council is affiliated with the Southern Regional Education Board. It consists of 188 accredited colleges and universities that offer programs in nursing located in states that comprise the Southern Regional Education Board. Its purpose is to help plan activities to strengthen nursing education in colleges and universities in the South. ■

Founding Dean of Nursing School Dies

E. Louise Grant, founding dean of the Medical College of Georgia School of Nursing, died June 30 at the MCG Hospital. She was 87.

Ms. Grant, a native of Hibbing, Minn., earned a bachelor's degree in nursing from the University of Minnesota and a master's degree from Teachers College in Columbia, N.Y.

E. Louise Grant

Ms. Grant headed the University of Georgia's nursing department from 1951 to 1956 and was named dean when the department was transferred to MCG and established as its nursing school. During Ms. Grant's tenure, a master's degree program and the MCG School of Nursing alumni association were formed. She retired as dean emeritus of the nursing school in 1971.

She was a member of the National League for Nursing and the Georgia Board of Nursing. ■

MEDICAL COLLEGE OF GEORGIA
SCHOOL OF NURSING
1943-1993
FIRST FIFTY YEARS OF EXCELLENCE

Dr. Tedesco Honored by Alma Mater

Toni Baker

Dr. Francis J. Tedesco, president of the Medical College of Georgia and a 1965 graduate of Connecticut's Fairfield University, is recipient of the 1993 Alumni Professional Achievement Award from his alma mater.

Dr. Tedesco, recipient of this award for alumni who have distinguished themselves in their profession, is Fairfield University's first alumnus to be president of a university of higher learning.

The MCG president is a native of Derby, Conn., who graduated from Fairfield College Preparatory School in 1961 before earning his undergraduate degree from Fairfield University.

He graduated from St. Louis University School of Medicine, then completed three years of postgraduate training in medicine at the Hospital of the University of Pennsylvania in 1972 before completing a two-year fellowship in gastroenterology at Washington University School of Medicine in St. Louis.

He joined the Washington University faculty as an assistant professor of medicine for one year, before going to the University of Miami School of Medicine in 1975. He was co-director of the clinical research unit in Miami before he joined the MCG faculty in 1978 as an associate professor and chief of the section of gastroenterology. He was promoted to full professor in 1981, served first as acting vice president for clinical affairs, then as vice president from 1984 until June 1988. During the last two years of his vice presidency, he also served as interim dean of the School of Medicine. July 1, 1988, Dr. Tedesco became MCG's president.

Dr. Tedesco is chairman of the 25-member Health Strategies Council, which makes recommendations to the governor on the health-care needs of Georgians. He was named one of Georgia's 100 most influential citizens in the January 1993 issue of *Georgia Trend* magazine.

He is former president of the American Society of Gastrointestinal Endoscopy, one of the largest gastrointestinal organizations in the United States. He serves as a reviewer for 14 nationally known journals and has been on the editorial board of five professional journals. ■

Class Notes

School of Medicine

Dr. John S. Morgan has joined the staff of Callahan and Associates, P.C., in Birmingham, Ala., in the practice of general ophthalmology.

Dr. Estol R. Belflower ('64) retired from his radiology practice after 20 years in Juneau, Alaska. He is still active in the Alaska Air National Guard as a flight surgeon.

Dr. Gordon C. Carson III ('65), Atlanta, is director of emergency radiology at Grady Memorial Hospital. He is second vice president of the American Society of Emergency Radiology and has a second-degree black belt in Tae-Kwon-Do and Hapkido.

Navy Cmdr. Barbara J. Scherokman ('75) recently reported for duty with 4th Medical Battalion, 4th Force Service Group, Washington. She joined the Navy in 1981.

Dr. Hugh M. Gloster Jr. ('89) began a fellowship in Mohs micrographic surgery at the Mao Clinic in Rochester, Minn., in June. He is a member of th American Medical Association, the National Medical Association, Phi Beta Kappa, Alpha Omega Alpha and the Alpha Phi Alpha Fraternity. He is married to Dr. Angelique Gloster, who is practicing medicine in Rochester during her husband's fellowship.

School of Dentistry

Dr. Arthur H. Jeske (Graduate Studies, '75, and Dentistry, '78), Houston, has been elected editor of the Texas Dental Association. He is editor of the Greater Houston Dental Society and was the MCG School of Dentistry's Distinguished Alumnus in 1989.

School of Allied Health Sciences

Muriel Herrera Adams (MRA, '69), Arlington, Va., is director of medical record technology at Prince George's Community College, MD. She passed the first national exam given to become a certified coding specialist.

Donna White Kearney (MRA, '76), received a J.D. degree from the Marshall-Wythe School of Law, College of William and Mary, Williamsburg., Va., in May 1992. She practices workers' compensation defense with the firm of Taylor and Walker in Norfolk.

Nancy E. (Beth) Williams Martilik (MRA, '78) is coding supervisor at Community Hospital of Roanoke Valley, Roanoke, Va. She married Rick Martilik July 11, 1992, and became "instant mom" to Teresa, 9, and William, 8. She'd like to locate classmate Mindy Nicholson. Can anyone help?

Teena C. Fruehauf (PT, '79) is director of rehabilitation services at PATRICK rehab-wellness in Fayetteville, Tenn. She is married and has a baby girl.

School of Nursing

Maidana K. Nunn (BSN, '58), a psychiatric nurse from Milledgeville, Ga., retired from the USAFR, NC with the rank of colonel after 21 years of service.

Dr. James P. Embrey, CRNA (BSN, '77) completed a doctorate in adult education from Virginia Commonwealth University in May 1991. He is working as a graduate faculty member in the Department of Nurse Anesthesia, Medical College of Virginia Campus, Virginia Commonwealth University, Richmond, Va. His duties are divided between didactic and clinical education of graduate nurse anesthesia students, as well as serving as the program's director of research for 52 students. He lives in Chesterfield County with his wife and two children.

Helen M. Faso (MSN, '80), Wheeling, W.Va., is an associate professor of nursing at Wheeling Jesuit College and earned a Ph.D. in nursing from the University of Texas at Austin.

Mark Williams ('86) has completed a pediatric urology fellowship at the University of Tennessee and LeBonheur Children's Medical Center in Memphis. As of July 1993, he is in private practice in Charlotte, N.C., with the Southeast Children's Urology group.

Obituaries

Dr. David Randy Weaver ('88), died May 4, 1993. A fund has been established for his daughter's college education. Donations may be sent in care of Dr. Paul Walls, Holly Weaver College Fund, 601 Dixie Street, Carrollton, Ga. For more information, contact Dr. Walls at (404) 832-6123. ■

Deadline for submitting information for publication in the fall issue of AlumNews is Sept. 15, 1993.

Alumni! Let us know what's new with you by taking a moment to fill out this form. Also, please send us your curriculum vitae so we can keep your files up-to-date.

Today's date _____

Name _____

Phone _____

School graduated from _____

Degree _____ Class year _____

Street address _____

City _____ State _____ Zip _____

❑ Check if new address

Present specialty and place of practice or training _____

Professional news (attach additional page if needed) _____

Personal news (b&w photos welcome) _____

Please send to: Christine Deriso; Alumni Center FI-100; Medical College of Georgia; Augusta, GA 30912

Hand in Hand

Grace Yrizarry took a trip to McDonald's recently.

Not such a big deal for most of us. But for the man she and fellow staff members accompanied, it was. It was the first time in years that the man, a patient at the Augusta-area Georgia Regional Hospital, a state facility for the mentally ill, had felt comfortable enough to leave the hospital campus for a social outing.

Part of Grace's job as a physician assistant at the hospital is to help integrate patients back into society, if possible. The outing to a fast-food restaurant was a milestone for her patient. He was fascinated by the drive-through, which he had never seen, so they drove up and ordered dinner. The event proved to be a small breakthrough for the man, who has since felt secure enough to go on several more patient outings.

"I love what I do. In this field, every day is an adventure. It's always different, and you never know what to expect," said Grace, a 1987 graduate of the physician assistant program at the Medical College of Georgia.

Momentous occasions such as this are only a small part of her days. She spends most of her time in the hospital working with a physician and patients, including conducting patient histories and physicals, recommending and prescribing medications, ordering and interpreting laboratory work, taking care of minor medical problems, consulting with the rest of the treatment team and much more.

She works in a unit that typically houses about 50 patients who require longer care or further attention than most of those at Georgia Regional. What might seem to some to be difficult and poten-

Grace Yrizarry

Bonnie Dadig (left) with students

tially depressing work, Grace sees as exciting and challenging.

"This is an area of medicine where you regularly see patients who don't have the best chance of getting better, going home and never coming back," she said. "Our rewards often come from smaller achievements. It's sometimes difficult to realize that most of these people are not going to lead completely normal lives. But I also don't give up on any one of them; you can't. And I always know that some of them will do wonderfully.

"I always try to keep in mind that anyone can have a mental illness. I could have a mental illness. We, the staff, are no different from the patients I work with. A mental illness is no different than any other illness in that respect. And so we need people willing and able to work with and treat patients."

She works closely with other members of the staff, helping to handle the medical and other aspects of her job along with the inevitable administrative work.

"We operate as a treatment team," Grace said. "The psychiatrist, me, the nurses, the social worker and others here work together. As a part of the team, our goal is to work with the patients, try to stabilize them and allow them to be able to return to the community."

Medical teamwork is key to the work physician assistants do, according to Bonnie Dadig, chairman of the Department of Physician Assistant at the Medical College of Georgia.

"Physician assistants allow the physician to use their time in a more efficient way," she said. "We do so many things to allow the physician to spend time with the more complicated patients; we have the time to attend to things while the physician is busy with other responsibilities. We make sure consults are followed through, take the time to answer any question the patient may have, take medical histories, complete physicals, follow up with pre-op and post-op care, relay information to various members of the team and so on.

"One thing a P.A. has to be strong in is communication," she said. "I think P.A.s help make patients feel comfortable, so they can talk with you, let you know what they are feeling. This allows you to find out information that may be important, but the physician may not have the time to spend with the patient. Also, often patients and other health-care providers perceive P.A.s as being more accessible and may feel less intimidated bringing up important issues, since many people are afraid of bothering the doctor."

Physician assistants are relative newcomers to medical care. They may be most accurately thought of as an extension of the physician, according to Ms. Dadig. Physician assistants can do many of the things a doctor does, although they are under a physician's supervision. In a number of states, they can even prescribe many medications, although Georgia has not yet allowed this, she said.

Statistics indicate that most medical specialists have discovered the value of physician assistants. They are becoming increasingly common in areas such as family practice, cardiology and the surgical specialties.

"Physician assistants are found almost everywhere, in all specialties now," Ms. Dadig said. "We are more common in the more labor-intensive specialties. But I think we also have the tendency to go where the needs are."

Students completing the program earn a bachelor's degree in physician assistant. The program involves two years at a college or university, taking required preliminary science and related courses, followed by 24 months of course work and

clinical rotations at MCG.

MCG also started a satellite physician assistant program in Albany, Ga., in 1992. Four students were accepted this past school year; the program's enrollment will expand to eight in the next two years. The program is designed to help combat the shortage of professional health-care providers in rural Georgia by accepting students from the area and completing much of their education there, thereby increasing the chances that they will remain where the needs are, Ms. Dadig said.

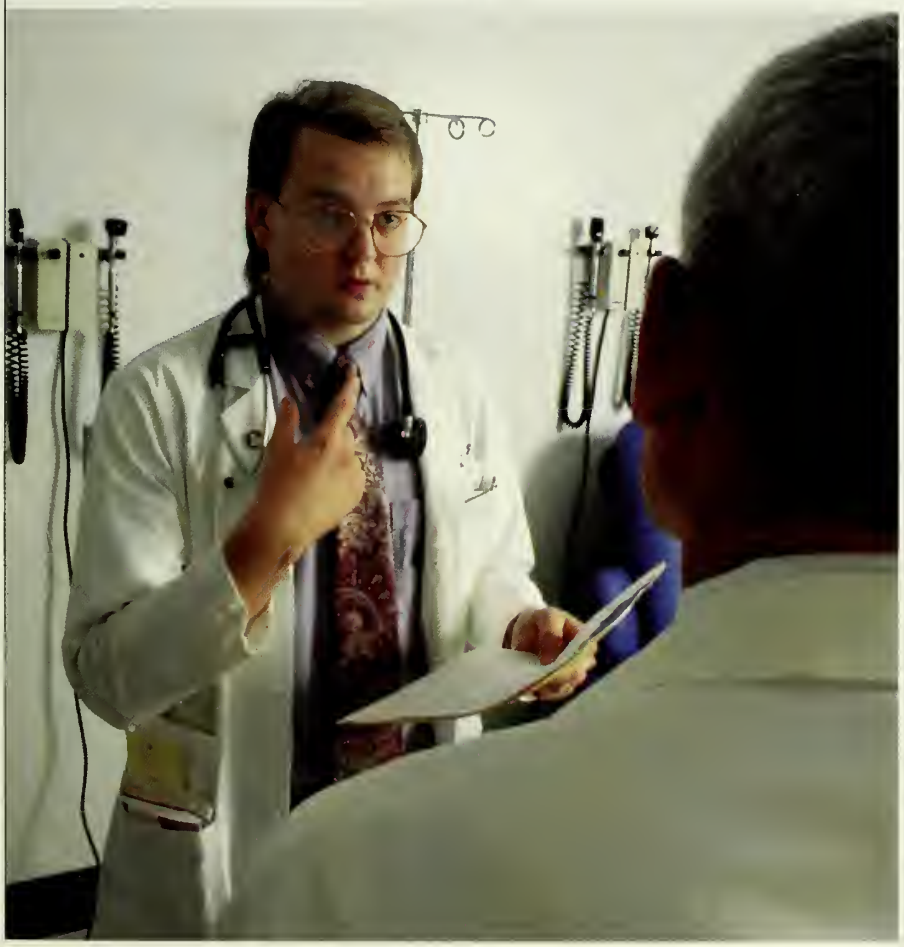
"We really stress looking at the whole patient in our program," Ms. Dadig said. "Never let the disease be what you are treating; you are treating the whole person who has the disease."

For many people interested in a career in medicine but not in the many years of training or the hectic lifestyle of many doctors, a career as a physician assistant is a tailor-made option, Ms. Dadig said. "A physician assistant certainly works hard," she said. "But it also is a career that offers a high quality of life. It can allow you to have some other interests, or maybe to take some time off for a family, if that is what you want to do.

"Many of our students have already been involved in the medical field in some capacity and have decided that they would like a little more responsibility, or to work more closely with the patients," she said. The program has accepted students who have worked as medical technicians, various medical assistants, emergency medical technicians and in many other related fields.

And graduates tend to be in high demand as many doctors discover the value of working closely with a physician assistant. There are eight to ten jobs available per graduate, and the average starting salary is approximately $36,000, according to Ms. Dadig.

John Foss



John Foss, a physician assistant who works primarily with AIDS patients at MCG, chose the field as a second career. A bright and straightforward man, he first learned of the profession when he served as a medic in the U.S. Army, supervised by a physician assistant.

"It was a direction that interested me, so after I got out of the Army, I started back in school and came to MCG," he said. "My original intention was to earn a P.A. degree and go back into the Army, but then the position at MCG opened up as I was graduating, and it allows me to teach part-time in the program here, too."

In addition to his work with AIDS patients, John also is a clinical instructor for MCG's physician assistant program. He teaches the infectious disease portion of the clinical medicine course and works with students in small groups.

"I want to not only be a P.A., but also to teach," he said. "I like not only the patient-care aspect, but also working with students. And being at a university allows me to also be involved in research, which I wouldn't be able to do many places."

John sees patients in clinic, takes medical histories, gives physical examinations, assesses patient needs, checks for new problems, talks with patients and discusses his findings and his plan with a physician. He coordinates the other aspects of assessment and treatment, such as scheduling CAT scans, laboratory work, and, often, social work.

"I also spend a lot of time of the phone," he said. "(Patients) might be sick, out of medicine, they don't know what to do, or maybe they just need someone to talk to. That's where I come in."

He also is involved in several research studies, such as drug trials, and he screens patients to determine if they may be eligible to participate. "The drug studies are exciting," he said. "You hope it works. You hope you'll be able to help find something that makes a difference.

"There is a real need in my field. Our patient load has approximately doubled in the past year, and none of our AIDS patients can be cured—yet. But work like mine allows us to see more patients and lets the physician see the patients with more difficult problems.

"I know that these people are going to die, sooner or later. My job is to help them feel as good as they can and do the things they want to do until that time. Sometimes it's difficult, but it's a job that needs doing, and I can make a difference in the quality of life for them."

The close patient and physician contact, along with the daily challenges, suits John well.

"When I graduated, I had an idea of what I thought a P.A. does," John said. "That has changed since I got into my job. I think one strong point of a P.A. is that you're flexible. And often, you are able to spend time with the patient, do some psychosocial work that the physician may not be able to do.

"It's a great career. If you want to help patients, be involved in medicine, and have a little more freedom with your life, then you want to be a P.A." ■

—INGRID HEGGOY

Cell injuries appear to have a role in muscles that enlarge with exercise or wither with muscular dystrophy.

A Medical College of Georgia researcher is studying how the physical force produced by everyday activity, such as standing up or even digesting food, injures the cell's covering, or plasma membrane.

This quick-healing injury allows chemicals called growth factors to escape and spurs cell growth that can be good news or bad news.

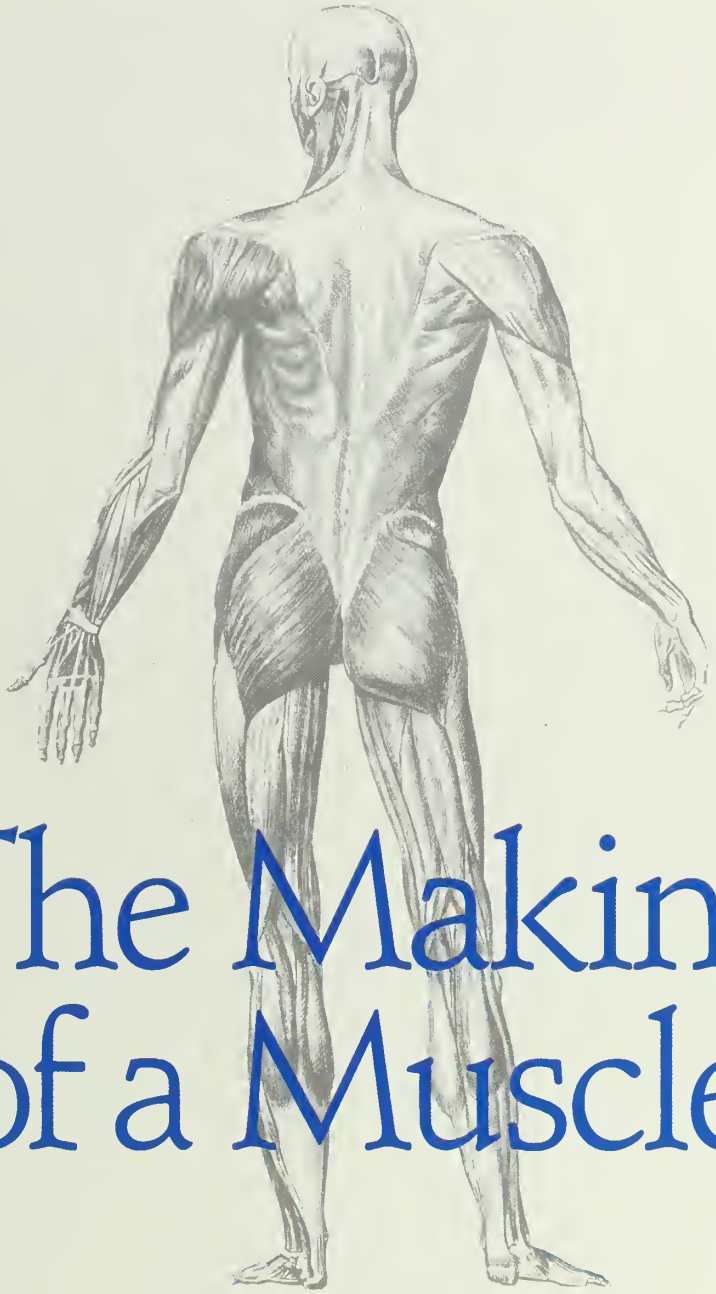
"No one debated that cells are killed, their membrane boundaries permanently disrupted, when you cut through a tissue with a knife, or when you really stub your toe on the coffee table," said Dr. Paul L. McNeil, associate professor in the MCG Department of Cellular Biology and Anatomy.

"What no one had thought about is what happens to cells experiencing the everyday levels of mechanical forces our bodies receive and generate. Those hadn't been suspected to cause injury to cells, but they do."

In his laboratory, Dr. McNeil has watched an injured cell heal in four to five seconds, equating the action to self-sealing tires.

"If a small hole is poked in it, the cell can very successfully and rapidly reseal that hole. These membrane disruptions or holes can't be open for more than four or five seconds or the chemical environment outside the cell pours inside the cell; the inside and outside of the cell become the same, and the cell is dead," Dr. McNeil said. The permanent injury and subsequent cell death results from more devastating cell injuries, such as a knife wound.

Dr. McNeil's research



The Making of a Muscle

now is focused on documenting the release of growth factors during the critical few seconds the plasma membrane is injured and opened from more routine activity.

"We know that these cellular injuries occur. Now what we would like to do is provide better evidence that growth factors are released through these membrane holes.

"We know that certain growth factors are inside the cells, and we think there is no other way of these getting out. But we don't know that for sure. There may be unexplained mechanisms for how they get out," he said.

Once outside the cell, these growth factors help cells grow, actively divide and increase in number. They also may trip a cell into action, and many of those actions relate to injury repair.

This constant injury, growth factor release and subsequent cell growth could explain muscle growth and bone strengthening that come with vigorous physical workouts, Dr. McNeil said.

"We think that when you do vigorous exercise with a muscle, within that muscle—and it's comprised of millions or billions of muscle cells—you induce, in 5 to 10 percent of those cells, membrane injury. Then growth factors are released from the inside of the cells through those membrane holes into the extracellular environment where they can act on the outside surface of the cell to stimulate it to grow.

"This is sort of the cellular basis of the no-pain, no-gain theory of exercise," he said.

In contrast, this process also could explain why lack of activity, such as confinement to a wheelchair, results in muscle and bone atrophy, he said.

"One of the strongest clinical applications (of this research) is understanding muscular dystrophy," he said. He theorizes that people with this disease, characterized by muscles wasting away, are missing a protein that makes their plasma membrane resilient. So their membranes are more prone to injury, less prone to heal and more likely to die.

"If the rate of cell death exceeds the rate of cell growth promoted by these growth factors, the net effect is atrophy," Dr. McNeil said.

The research also may shed light on cardiovascular disease in which the inside of arteries become narrowed, reducing the amount of blood and oxygen that gets to the heart and body. The constant pounding of blood against key areas of the arteries may result in regular cell injury and therefore release of growth factor. Cells in the artery walls increase in number and the path for blood becomes smaller as a result, Dr. McNeil said.

"The other clinical aspect we think about is the role of growth factors in the repair of gut injuries," he said. Laboratory studies of animals have shown that growth factors may help promote repair of gut injuries, such as ulcers, and he is working to document this process at his MCG laboratory.

Dr. McNeil began his research efforts at Harvard University and brought them with him to MCG when he joined the faculty in August. ■

—TONI BAKER

SPREADING THE WORD

Members of the development staff of the Medical College of Georgia Children's Medical Center have vivid recollections of introducing themselves as representatives of the CMC and getting a blank stare in return.

"When I first joined MCG, there was little awareness or perception of the CMC (in the community). It just didn't exist," said Lorraine Poss, director of development for the CMC.

The staff's job was to change all that.

In the mid-1980s, the CMC was just beginning to form an identity separate from the hospital. Its resources are stunning—an entire range of pediatric subspecialists, a level-three neonatal unit, a pediatric transport team, state-of-the-art equipment such as extracorporeal membrane oxygenation (a means of artificially oxygenating blood), service to children throughout Georgia and beyond....

But despite its long list of attributes, the CMC until recently "was the best-kept secret in Augusta," said Pat Findling-Sodomka, administrator of the CMC.

It was vital to let the cat out of the bag. The state of Georgia funds only 15 percent of the CMC's expenses; the remainder must come from patient fees and outside support. The development staff's job is to secure that support.

For the past eight years, they have been making speeches to civic groups, introducing themselves to business people, pitching in during community events—all to spread the word of the Children's Medical Center.

"I think we've really educated the community about the CMC over the last few years," Ms. Poss said. "We had to make people feel that helping kids get well was a priority, even if it wasn't their kid. I asked them to become a long-term partner in a venture that would be mutually beneficial."

She invited local organizations and individuals to donate their time and talent in fund-raisers. She invited businesses to begin cause-marketing campaigns, in which percentages of sales benefit the CMC.

These days, you'd be hard-pressed to meet a local business person who hasn't crossed paths with Ms. Poss. The hundreds who have come to support the CMC realize that they're not only contributing to a good cause but our helping themselves as well. The business benefits by its association with a good cause, by boosting employee morale and by increasing sales.

"When I approach them, I say, 'Tell me what your needs are and your desire to have a charitable affiliation,'" Ms. Poss said. "We assume going in that they identify with children. You have to have an emotional commitment first, and that's something we don't even have to sell. Our program sells itself."

Ms. Poss's efforts are further supported by the CMC's eight-year relationship with the Children's Miracle Network, an organization founded by the Osmond Foundation to benefit children's health-care facilities. The network sponsors an annual telethon for participating facilities. All proceeds raised locally benefit the local facility.

"The common thread of all participating Children's Miracle Network facilities is that they treat all children, regardless of illness or injury, and regardless of their ability to pay," Ms. Poss said.

The 21-hour telethon, televised locally on WRDW Channel 12 from Augusta Mall, provides a forum not only for direct donations, but to recognize those who have participated in and contributed to fund-raisers throughout the year, Ms. Poss said. Another goal of the telethon is to increase awareness of the facility and to introduce the community to some of its staff and patients.

Local segments of the telethon include patient vignettes, check presentations, interviews with CMC representatives, live remotes from the CMC and educational segments. Hundreds of volunteers join forces to make it a success, supervised by special-events coordinator Gina Wilkie. The end result looks flawless to television viewers, but Ms. Wilkie laughingly reports that live television has its share of stresses.

"It's kind of hectic, because you're dealing with a deadline. We have to put together live, 30-minute segments in 20 minutes, for instance. But it's a lot of fun. It involves so many people who are extremely talented." Marion White, the fashion director for J. B. White, has been a telethon host since its inception. Channel 12 staff members also host the telethon. Charlie Brown, president of Industrial Rubber and Safety, is the volunteer chairman, and John Neal is the finance chairman, tallying donations and managing book-keeping duties throughout the telethon. Other volunteers man telephones, run errands, greet guests, verify pledges, offer refreshments and provide the countless other duties necessary to make the telethon a success.

But the hard work definitely pays off. This year's telethon netted a record $521,626. A cumulative $2.6 million has been raised during the past eight years.

"This is a very successful telethon, one of the more productive telethons for our community size," Ms. Findling-Sodomka said. "I think it says something about the commitment of the community and the quality fo the effort."

The money supports the CMC's operational needs—for example, a child-life program to emotionally aid hospitalized children. (MCG also trains child-life specialists through a joint venture with the University of Georgia.)

Operational needs also include hospital equipment, Camp Rainbow (an annual weeklong camp for children with cancer), Project Wish (which fulfills the wish of chronically or terminally ill children), an emergency-meal program for parents, toys for children about to undergo surgery, a newly implemented school program for hospitalized children—the list goes on and on.

" We focus on things that can't be paid for through traditional reimbursement mechanisms, things that make the CMC really special for and oriented toward children," Ms. Findling-Sodomka said.

In addition to operational support, a quarter of telethon proceeds have been set aside to help build a Children's Medical Center. (The current CMC is housed primarily on the eighth floor of the MCG Hospital.) That goal came to fruition when the Georgia legislature authorized funding during its 1993 session to construct a $41 million CMC. The center, which will have some 150 beds, will be built at the site of the current School of Nursing on Harper Street. Construction is scheduled to be completed by 1997.

But Ms. Poss stressed that although that goal is being realized, community support for the CMC and its operational expenses will continue to be vital.

"There will always be a need for community support," she said. ■

—CHRISTINE HURLEY DERISO

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